

ANGLED GRIPPING JOINT COMBINATION FOR SUPPORT STRUCTURES

CLAIMS

I claim:

1. An angled gripping joint combination for support structures, comprising a U-beam top joint with lumber end gripping means and a U-beam splay bar for use with a pair of lumber legs and a lumber cross-beam, the U-beam top joint having a side U-beam, and a ¹ ~~side flat beam~~ ^{side bracket beam} joining a pair of spaced inward facing end brackets, each such bracket adapted to abut three sides of a lumber leg while allowing a fourth side of the lumber leg free to pivot away from the bracket until pressing a top edge of the fourth side against the lumber cross-beam when the lumber cross-beam is positioned on the side beams, each such bracket having an inward facing lumber leg pivot surface that is at an obtuse angle with respect to a top surface of the side beams, the U-beam splay bar having at each end thereof a spaced pair of outward facing end brackets, each having an outward facing lumber leg guiding surface that is fixed with respect to the bar at a like obtuse angle to that of the inward facing lumber leg pivot surface with respect to a top surface of the side beams.

2. The combination of Claim 1, in which there are side enclosing brackets affixed to the side beam of the U-beam top joint.

3. The combination of Claim 1, in which there are side enclosing brackets affixed to a side of the U-beam splay bar.

4. The combination of Claim 1, in which there are side enclosing brackets affixed to the side beam of the U-beam top joint and side enclosing brackets affixed to a side of the U-beam splay bar.

5. The combination of Claim 4, in which the outward facing brackets each have a pair of parallel flanks extending perpendicular along opposite sides of each of the outward facing lumber leg guiding surfaces.

6. The combination of Claim 5, in which the parallel flanks have holes through which a retaining nail could be inserted into a lumber leg.

7. The combination of Claim 6, comprising a second combination of the U-beam top joint with lumber end gripping

means and the U-beam splay bar, a lumber cross-beam, and four lumber legs.

8. The method of using the combination of Claim 7 to assemble a sawhorse, comprising the steps of:

a) placing a U-beam top joint with lumber end gripping means upsidedown across an end portion of a lumber cross-beam, with the inward facing end brackets protruding respectively over each side of the lumber cross-beam;

b) inserting a top portion of an inverted lumber leg into each inward facing end bracket such that the top portions flank the lumber cross-beam;

c) placing a U-beam splay bar between middle portions of the lumber legs such that the U-beam splay bar with lumber splaying means's outward facing lumber leg guiding surfaces align with the inward facing lumber leg pivot surfaces of the top joint;

d) pressing down on the U-beam splay bar until it forces the middle portions apart and pivots the top

portions of the lumber legs against the lumber cross-beam and the entire assembly becomes rigid;

e) putting retainers through the flanks of the outward facing end brackets and into the lumber legs;

f) repeating steps a) through e) with another top joint, pair of lumber legs, and U-beam splay bar at an opposite end of the lumber cross-beam;

g) turning upright the entire assembly.

9. The combination of two sets of the combination of Claim 7, in which two of the four top joints have a support ledge formed by a U-beam to which a chopsaw base can be bolted.

10. The method of using the combination of Claim 9 to assemble a chopsaw table, comprising the steps of:

a) repeating the steps of Claim 8;

b) aligning the two lumber cross-beams with the two support ledges adjacent and spaced a chopsaw base apart;

c) bolting a chopsaw onto the ledges between the two assemblies;

d) inserting lumber fence support beams into the side brackets into the side enclosing brackets of at least two of the U-beam top joints, perpendicular to the lumber cross-beams.

11. The combination of Claim 7, comprising additionally a set of four longer legs of lumber;

12. The method of using the combination of Claim 11 to assemble a scaffold support, comprising the steps of doubling up a longer leg of lumber with each of the lumber legs and extending a top portion of each of the longer legs of lumber above the top portion of the respective lumber legs to provide four gripping edges at each end of a cross-beam in a joist orientation on the top joints.

13. The combination of two sets of the combination of Claim 7, are aligned width-wise and joined by lumber lengths inserted perpendicular to the lumber cross-beams through aligned side enclosing brackets on the respective sets.

14. The combination of multiple sets of Claim 7, in which a bench and table structure is formed by lumber lengths inserted through side enclosing brackets affixed to side beams of U-beam top joints of at least one bench structure and inserted through side enclosing brackets affixed to sides of U-beam splay bars of at least one table structure aligned therewith.

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